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DIFFERENTIATING ACUTE MYOCARDIAL INFARCTION FROM OTHER ECG ABNORMALITIES

Cross Reference to Related Application

The application claims priority to U.S. Provisional Patent Application, Serial No, 60/430,462, filed December 2, 2002, for “Differentiating Acute Myocardial Infarction From Other ECG Abnormalities”. The entirety of that provisional application is hereby incorporated herein by reference.

Federal Support Clause

This invention was made with government support under Grant Number 2 R44 HL064485-02 awarded by the National Institutes of Health, National Heart, Lung and Blood Institute. The Government has certain rights in the invention.

Background and Summary of the Invention

The present invention relates to improving the detection of acute myocardial infarction in the presence of certain ECG confounders, and more specifically to a method for improving such detection effectively by modeling and then removing the effect of a selected confounder on the ST segment of the PQRST ECG waveform.

Detection of acute myocardial infarction (AMI) in the presence of certain ECG confounders is challenging both for commercial electrocardiograph (ECG) algorithms, and for clinicians. The combined prevalence of Left Bundle Branch Block (LBBB), right Bundle Branch Block (RBBB), Left Ventricular Hypertrophy (LVH), and Left Ventricular Hypertrophy with STT Abnormality (LVH/STT) in populations of patients with documented AMI can be significant, for example, as large as about 25%. The presence of such a confounder presents a significant hurdle to the correct and accurate detection of AMI evidence in an ECG waveform, and typically does this in a variety of ways, including both the masking and mimicking of AMI’s ECG “signature”, principally in the ST segment of a traditional PQRST ECG waveform. This prevalence, and the